

**Remarks**

Applicants thank Examiner D. Guzo for the telephone conference of July 8, 2003, during which certain claims were discussed. The claims were amended as discussed in the telephone conference.

Claims 1-50, 55 and 56 are pending in the application. Applicants acknowledge with thanks the indication that claims 43, 55 and 56 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Claims 1-28 and 49 have been canceled without prejudice as being drawn to non-elected subject matter. Claims 29, 39-43 and 46 have been amended. New claims 57-63 have been added. Support for the amendments may be found throughout the specification, including the claims as originally filed. In particular, support for the amendments to claims 29 and 39-43 can be found, e.g., at pages 50, lines 15-19, in Figure 8A and in the figure legend of Figure 8A, at page 5, lines 25-31. More specifically, the figure legend indicates that "the area of the repeated TCT triplets is highlighted." Support for the amendment to claim 46 and new claims 62 and 63 can be found, e.g., at page 46, lines 22 and 30-32. No new matter has been added.

Amendment of claims should in no way be construed as an acquiescence to any of the Examiner's rejections. The amendments to the claims are being made solely to expedite prosecution of the present application. Applicants reserve the option to further prosecute the same or similar claims in the instant or in a subsequent patent application.

**Rejection of claims 29-42, 44-48 and 50 under 35 U.S.C. 112, first paragraph (written description)**

Claims 29-42, 44-48 and 50 stand rejected under 35 U.S.C. 112, first paragraph, because, according to the Examiner, they describe subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the invention at the time the application was filed. The rejection is respectfully traversed.

The Examiner indicates that "Applicant [however] does not disclose where in the specification or in the prior art the structure-function teachings necessary for one to determine

from the sequence which regions of the [AhpC] gene would be more likely to increase the catalytic activity” and that “[t]here is no structure-function relationship disclosed in the specification for the ahpC gene so there is no guidance about where mutations should be made that would yield the desired phenotype.” Applicants respectfully disagree. However, merely for expediting prosecution of the instant claims, claims 29 and 39-43 have been amended to specify the location of the mutation in the AhpC gene. Reconsideration and withdrawal of this rejection is respectfully requested.

**Rejection of claim 46 under 35 U.S.C. 112, first paragraph (written description)**

Claim 46 stands rejected under 35 U.S.C. 112, first paragraph, because, according to the Examiner, it describes subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the invention at the time the application was filed. The rejection is respectfully traversed.

The Examiner states that “the specification is silent regarding structure-function teachings overall for the thioredoxin superfamily and other than the active site motif, does not teach where deletions or additions would yield increased redox potential” and that “[w]ithout structure-function teachings, one cannot envision all the variants that will increase the redox potential of any of the thioredoxin superfamily proteins.” Applicants respectfully disagree. However, merely for expediting prosecution of the instant claims, claim 46 has been amended to specify the location of the mutation in the thioredoxin superfamily protein. Reconsideration and withdrawal of this rejection is respectfully requested.

**Conclusion**


In view of the above remarks and the amendments to the claims, it is believed that this application is in condition for allowance. If a telephone conversation with Applicant's Attorney would expedite prosecution of the above-identified application, the Examiner is urged to call the undersigned at (617) 832-1000.

Respectfully submitted,

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